

Chapter Seven

CONCLUSION

7.1 The Challenges

The education industry is currently experiencing unprecedented growth due to the massive workforce requirements generated by the MSC project. Conventional academic programmes are being re-packaged to include IT. For example, Universiti Telekom's MBA programme has a module called Multimedia Marketing instead of the more traditional name of Marketing (Universiti Telekom MBA Prospectus, 1998).

This industry must also contend with more stringent regulations that have been enacted by the government to protect the consumer and to maintain high academic standards. This is deemed necessary owing to the public nature of education and the associated liability of running non-approved programmes.

As an IHL whose activities are governed by the MOE and LAN, KDU needs to bear in mind that the challenges it faces are significant. Fierce competition from the IHLs with the "3+0" approvals, public and private universities, and more recently branch campuses of foreign universities, have made the domestic education scenario extremely difficult. In addition, more discriminating consumers are putting a downward pressure on the price of attaining the academic qualifications while there is significant upward pressure on the quality of the academic programmes.

Recently, however, KDU was given the "3+0" approval by the MOE to run its Murdoch University B.A. in Accounting programme (The Star, 9th December 1998, p.1). Unfortunately, the approval did not include its Computing and Engineering programmes. This was a disappointment as these are the two biggest schools in the college, accounting for more than 1,000 students.

Furthermore, the licenses to run these two programmes will expire 31st December 1998. Therefore, this situation requires that KDU employ innovative means to attempt to stay abreast of its competitors.

For example, a combination of in-house/insourced and cosourced development of the homepage content and the College MIS would seem to be the most appropriate approach for KDU in view of the degree of strategic significance of the IS development activities concerned.

KDU's IS implementation has to balance the need to maintain access control with the rights of the individual. The effective manner to do this is to require all staff to sign an indemnity form. The college should also exploit the opportunities provided by web-based distance education by launching management-type courses that culminate in time-constrained assessments.

In addition, managing IS equipment requires a combination of one-off purchases and periodic renewals of software licenses to maintain compatibility across the board. This may be effected through the implementation of software license metering. Further, the costs of procuring hardware assets may be more effectively managed through a combination of leasing and purchasing new equipment and cascading older equipment to fulfil less demanding requirements.

Sometimes, however, even the best plans will go awry when disasters strike. In this respect, business information must be protected by effective and timely contingency planning that include daily backups and quick replacements of failed equipment.

Finally, one must consider the complexity of recruiting and retaining talented IT staff. In effect, motivating such staff would require a combination of factors such as remuneration, training, working conditions and personnel support.

These recommended policies are detailed in Table 3 (pp. 57-58), which also consolidates the issues discussed in Chapters 4 and 5.

Issues	Business Impact	Alternative Approaches	Recommended Policies
<u>IS Development</u>			
• Applications Development	<ul style="list-style-type: none"> • In-house development • Partial outsourcing 	<ul style="list-style-type: none"> • Systems life cycle • Prototyping • Application software packages • End-user development • Outsourcing 	<ul style="list-style-type: none"> • Selective outsourcing ✓ Insource/In-house ✓ Cosource/Collaboration ✓ Outsource
• Hardware Acquisition	<ul style="list-style-type: none"> • Leasing • Purchasing 	<ul style="list-style-type: none"> • Leasing • Purchasing 	<ul style="list-style-type: none"> • Leasing ✓ Selective purchasing
<u>IS Implementation</u>			
• College Homepage	<ul style="list-style-type: none"> • Information-based approach 	<ul style="list-style-type: none"> • Marketing tool • Distance learning through content management 	<ul style="list-style-type: none"> • Distance learning through content management ✓ Non skills-based ✓ User authentication ✓ Time-constrained assessment
• Mailing Lists	<ul style="list-style-type: none"> • Internet registration • Walk-in candidates 	<ul style="list-style-type: none"> • The traditional way • The Internet way • Privacy rights 	<ul style="list-style-type: none"> • Privacy rights ✓ Declaration not to reveal to other parties
• Responsibility	<ul style="list-style-type: none"> • Email use/abuse (rumours) • Email monitoring 	<ul style="list-style-type: none"> • Types of email • Individual rights 	<ul style="list-style-type: none"> • Individual rights ✓ Indemnity form
• Access Control and Accountability	<ul style="list-style-type: none"> • Network access to MIS • Staff carelessness 	<ul style="list-style-type: none"> • Access control • Convenience of use 	<ul style="list-style-type: none"> • Access control ✓ Segregation of duties ✓ Centrally secured areas ✓ Regular change of passwords

Table 3. Summary of Business Impact, Alternative Approaches and Recommended Policies.

Issues	Business Impact	Alternative Approaches	Recommended Policies
<u>IS Equipment Management</u>			
• Computer Virus	<ul style="list-style-type: none"> • Macro virus attack • Download evaluation copies of anti-virus software 	<ul style="list-style-type: none"> • Safety cards • Anti-virus software 	<ul style="list-style-type: none"> • Purchase anti-virus software
• Software Licensing	<ul style="list-style-type: none"> • Academic licenses • Compatibility issue 	<ul style="list-style-type: none"> • Periodic renewals • One-off purchases 	<ul style="list-style-type: none"> • Periodic renewals • One-off purchases • Software license metering
• Hardware Upgrades	<ul style="list-style-type: none"> • Memory upgrades • Labour costs 	<ul style="list-style-type: none"> • Component upgrades • New purchases 	<ul style="list-style-type: none"> • Lease • Purchase • Cascade
• Contingency Planning	<ul style="list-style-type: none"> • Weekly backups • Diskettes stored in safe 	<ul style="list-style-type: none"> • Daily backups • Quick replacements 	<ul style="list-style-type: none"> • Daily backups • Quick replacements
<u>IS Staffing Management</u>	<ul style="list-style-type: none"> • Young staff (< 3 years experience) • Eager to learn • Remuneration lower than the that of the IT industry • 30% fee discount incentive 	<ul style="list-style-type: none"> • Recruitment and retention • Motivation 	<ul style="list-style-type: none"> • Recruitment ✓ Project dynamic image • Motivation, Retention ✓ Industry-standard certification training • Staff development ✓ Long-term self-evaluation program

Table 3. Summary of Business Impact, Alternative Approaches and Recommended Policies.

7.2 The Response

In view of recent developments within the education industry, technology is the answer to the forced pressures from one's competitors. One can see that technology has already transformed other industries, such as banking, over the past decade (Coopers & Lybrand, 1996). Electronic banking, in the form of PC banking, Point-of-Sales automatic debit and telephone banking has been initiated to facilitate greater convenience for the consumer.

Yet, the fundamental structure and practices of most IHLs have not changed very much in the last few decades. However, the combination of economic, regulatory and social pressures as well as technological advances would result in massive changes within the education industry. Realistically, the economic, regulatory and social trends are beyond the influence and control of the average organisation. However, KDU, like any organisation operating within such pressures, can choose to effectively deploy technology as the key to its strategy to re-capture its past success.

Fortunately, the college recognises this opportunity and has already invested RM2.1 million in IT in 1998, and will be investing a further RM4.5 million in 1999. However, spending vast amounts on computer equipment is not necessarily effective. Technology deployment is effective only if it is an enabler. In this case, it must enable KDU to earn a competitive advantage over its competitors, so that the college will be able to stand out among the crowd of local private IHLs, with or without the "3+0" approval. In doing so, KDU must acknowledge that much needs to be done if it intends to re-capture the market share it had lost since 1st July 1998.

In view of this, the technology issues that have the most impact upon the college are included in the recommendations below (Please see Appendix I for a sample of the proposed IT Policy):

- Make distance education a priority, thus ensuring the IT infrastructure is able to accommodate the required large bandwidth for transmission and

video quality projection facilities

- Develop more innovative and cost-effective approaches to IS development and equipment management through outsourcing, leasing and metering of licenses
- Ensure that business information is secure and private through a combination of access control and indemnity measures as well as contingency planning
- Attract highly skilled IT staff by projecting an image of aggressive growth and supporting training as a means to motivate and retain staff

The benefits of adopting these recommendations are numerous.

7.3 The Benefits

Emerging distance education technologies are providing opportunities to reach part-time students and geographically remote students, share classes with remote IHLs and to team-teach (Coopers & Lybrand, 1996). In view of this, KDU will be able to exploit the global opportunities afforded by web-based education that may be launched on the Internet. With no limit to the target market, the college needs to focus on the content quality and to ensure no copyright laws are violated.

In managing the content, the college should consider it an integral part of the business. Therefore, the content development cannot be outsourced. On the other hand, KDU can streamline its IT operations and reduce its systems support costs by outsourcing its MIS development.

In respect of the licensing considerations, the metering of licenses would lead to economies of scale on integration of the college network as well as improve returns on investments. For example, the software license metering package costs approximately RM10,000 to monitor 100 network nodes. The cost of a single MS-Office 97 license is RM295.00. With the metering software, it would be sufficient to only purchase, say 60 licenses. The savings effected from not

purchasing 40 licenses would be RM11,800.00. Therefore, the software license metering package would pay for itself very quickly indeed.

Leasing is another IT strategy that would reap benefits for the college. It would improve the ability of the management to address the on-going needs of changing technology and to hedge against obsolescence. In addition, effective deployment of equipment in combining leasing and purchasing, as well as recycling older technology internally among the staff would ensure that technologically adequate computers can be maintained at all levels of activity.

Furthermore, the issue of securing the organisational business information is a crucial matter. A combination of access control and indemnity measures would result in effective electronic security together with user privacy, data integrity and secure access to existing systems. These concerns will impact core support services such as staff email, online real-time transaction processing in fee collection and Internet access. The additional precaution of adopting a contingency plan would effect an electronic safety net should disaster occur.

The issue that would realise the benefits mentioned thus far is that of IT staff. Highly talented and skilled staff form the backbone of any successful venture. In this case, revenue generation through such sophisticated means must necessarily have equally well trained staff to ensure the success of such activities. In fact industry-certified training is the most effective method to motivate and retain intelligent and highly skilled IT staff, as they will then be convinced that the college is committed to their development as valued members of the organisation. This would also prove that the college is willing to invest in their long-term wellbeing in grooming them for future career opportunities. In doing so, the college would have a core of loyal and dedicated staff who would be willing to work tirelessly to further the interests of the college.

In conclusion, the payoffs for KDU in adopting the recommendations would be improved cost-efficiency, the opportunity to market a more innovative

approach to learning, retain skilled and motivated IT staff as well as project a younger and a more vibrant image as a pre-eminent IHL. In doing so, it is hoped that the college will be able to create sufficient capabilities from employing effective technology management policies so as to develop a sustainable competitive advantage.